UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
RILEY, MARCUS T

ART UNIT	PAPER NUMBER
2625	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/772,443	MORIKAWA ET AL.
	Examiner	Art Unit	
	MARCUS T. RILEY	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 November 2010*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-22* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *06 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
       1.☐ Certified copies of the priority documents have been received.
       2.☐ Certified copies of the priority documents have been received in Application No. _____.
       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This office action is responsive to applicant's remarks received on November 17, 2010.

Claims 1-22 remain pending.

Response to Arguments

2.   Applicant's arguments with respect to claims **1-8, 10-15 & 17-22** have been considered

but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   **Claims 1-8, 10-15 & 17-22** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Yoshida et al. (US 6,130,757 hereinafter, Yoshida '757) in combination with Nakamura et

al. (US2003/0103777 hereinafter, Nakamura '777) as applied to claim 1, and further in view of

Obata et al. (US 7,259,876 B2 hereinafter, Obata '876).

         Regarding claim 1; Yoshida '757 discloses a data processing apparatus comprising (Fig.

2, Copying Machine 1):

             one or more compression/decompression units (Fig. 4, Compress Unit 311 / Decompress Unit 312);

that compress the data for an input job and decompress the compressed data (i.e. Image data is compressed by compressing unit 311, read from code memory 306 and decompressed by decompressing unit 312. Column 8, lines 1-34).

a controller (Fig. 4, "CONT"),

wherein when a processing request is issued (Fig. 5, [00] Job 1, Page 1,Compressed Data 1)

for processing of the data for a next job (Fig. 5, [01] Job 1, Page 1, Compressed Data 2)

by said compression/decompression units during processing of the data for a current job by said compression/decompression units (Fig. 5 i.e. Fig. 5 shows wherein a processing request was issued and several jobs are to be processed, stored in the Memory 306, compressed by compressing unit 311 and decompressed by decompressing unit 312. Column 7, line 59 thru Column 8, line 8).

Yoshida '757 does not expressly disclose wherein said controller performs processing comprising a) obtaining the processing wait period between pages of said current job b) obtaining the minimum processing time for said next job data; c) comparing the processing wait period between pages of said current job with the minimum processing time for said next job data; d) determining whether or not said processing wait period is longer than said minimum processing time, based on a comparison between the minimum processing time for said next-job data and said processing wait period.

Nakamura '777 discloses wherein said controller (Fig. 3, Controller 21) performs processing comprising (i.e. Controller 21 performs processing of the print jobs received from the network board 20. Paragraph 0058);

a) obtaining the processing wait period between pages of said current job (Fig. 9d & 9e i.e. As revealed by the comparison of waiting times A-W and B-W for job A and job B illustrated in Fig. 9d and Fig. 9e, respectively, the overall print waiting time in (sum of waiting time for job A and waiting time for job B) in Fig. 9e. Paragraphs 0105-0106);

b) obtaining the minimum processing time for said next job data (Figs. 9a - 9e i.e. The overall

print waiting time in (sum of waiting time for job A and waiting time for job B) in Fig. 9e is shorter than the overall print waiting

time (sum of waiting time for job A and waiting time for job B) in Fig. 9d Page 5-6, Paragraphs 0105-0106);

c) comparing the processing wait period between pages of said current job with the

minimum processing time for said next job data (Fig. 9d & 9e i.e. As revealed by the comparison of waiting

times A-W and B-W for job A and job B illustrated in Fig. 9d and Fig. 9e, respectively, the overall print waiting time in (sum of

waiting time for job A and waiting time for job B) in FIG. 9e is shorter than the overall print waiting time (sum of waiting time

for job A and waiting time for job B) in Fig. 9d, by the time period indicated by the shaded portion of Fig. 9d. Paragraphs 0105-

0106);

d) determing whether or not said processing wait period is longer than said minimum

processing time, based on a comparison between the minimum processing time for said next-job

data and said processing wait period (Fig. 9d & 9e i.e. As revealed by the comparison of waiting times A-W and B-

W for job A and job B illustrated in Fig. 9d and Fig. 9e, respectively, the overall print waiting time in (sum of waiting time for

job A and waiting time for job B) in FIG. 9e is shorter than the overall print waiting time (sum of waiting time for job A and

waiting time for job B) in Fig. 9d, by the time period indicated by the shaded portion of Fig. 9d. Paragraphs 0105-0106);

Yoshida '757 and Nakamura '777 are combinable because they are from the same field of

endeavor of image forming apparatuses (Nakamura '777 at *"Field of Invention"*).

At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to modify the data processing apparatus as taught by Yoshida '757 by adding a controller

as taught by Nakamura '777. The motivation for doing so would have been advantageous to

reduce process time for printing. Therefore, it would have been obvious to combine Yoshida

'757 with Nakamura '777 to obtain the invention as specified in claim 1.

Yoshida '757 as modified does not expressly disclose controlling the execution of processing of data for said next job by said compression/decompression units in accordance with this determination.

Obata '876 discloses controlling the execution of processing of data for said next job by said compression/decompression units in accordance with this determination (Fig. 1, DMAC Unit 44 & Compression/ Decompression Unit 46 i.e. The DMAC 44 calculates processing times and measures the data transfer rate. Based on the rate of transfer, the DMAC 44 processes the image data from the compression/decompression unit 46. Column 9, line 38 thru Column 10, line 5).

Yoshida '757 and Obata '876 are combinable because they are from the same field of endeavor of image forming apparatuses (Obata '876 at *"Background"*).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image forming apparatuses as taught by Yoshida '757 by controlling the execution of processing of data as taught by Obata '876. The motivation for doing so would have been advantageous to manage the printing process time. Therefore, it would have been obvious to combine Yoshida '757 with Obata '876 to obtain the invention as specified in claim 1.

Regarding claim 2; Claim 2 contains substantially the same subject matter as claim 1. Therefore, claim 2 is rejected on the same grounds as claim 1. However, Yoshida '757 as modified does not expressly disclose wherein said controller permits said compression/ decompression unit(s) to process said next job between pages of said current job.

Obata '876 discloses wherein said controller permits said compression/ decompression unit(s) to process said next job between pages of said current job (Fig. 1, DMAC Unit 44 & Compression/ Decompression Unit 46 i.e. The DMAC 44 calculates processing times and measures the data transfer rate. Based on the rate of

transfer, the DMAC 44 processes the image data from the compression/decompression unit 46. Column 9, line 38 thru Column

10, line 5).

Yoshida '757 and Obata '876 are combinable because they are from the same field of

endeavor of image forming apparatuses (Obata '876 at *"Background"*).

At the time of the invention, it would have been obvious to a person of ordinary skill in

the art to modify the image forming apparatuses as taught by Yoshida '757 by controlling the

execution of processing of data as taught by Obata '876. The motivation for doing so would have

been advantageous to manage the printing process time. Therefore, it would have been obvious

to combine Yoshida '757 with Obata '876 to obtain the invention as specified in claim 1.

Regarding claim 3; Yoshida '757 discloses where the said job includes a copy job in

which image data for an original document ready by an original document reader is printed out

or a print job in which image data received from an external terminal is printed out (i.e. Each of

copying machines 1, 4, and 6 includes such functions as image reading, image processing with which read images are edited, and

printing. Column 4, lines 25-26).

Regarding claim 5; Yoshida '757 discloses where the said next-job attribute consists of

whether the data processing for the next job is to take place on a page unit, band unit or block

unit basis (Fig. 24, Step S53-S59 i.e. CPU 103 executes the jobs based on the priorities. The print jobs are executed page by

page based on the priorities and the registered times. Column 17, lines 14-43 and Column 11, lines 29-33).

Regarding claim 6; Yoshida '757 discloses where the said next-job attribute consists of

the type of the next job (i.e. The job IDs are job identification numbers for the transmissions. The priorities indicate the

priorities of the jobs for transmissions. Column 11, lines 38-43).

Regarding claim 7; Yoshida '757 discloses where said next-job attribute consists of the input source for the next job (Fig. 4 Input/Output Controlling Unit 50 i.e. CPU 103 instructs external input/output controlling unit 50 to output the image data to send the image data to another apparatus for a requested job. Column 7, lines 23-34).

Regarding claim 8; Yoshida '757 discloses where said next-job attribute consists of whether the data is binary data or multi-value data (Fig. 4 Multi-Valuing Unit 308 i.e. The Multi-Valuing Unit determines that the data is multi-value data. Column 8, lines 33-37).

Regarding claim 4 & 11; Claims 4 & 11 contains substantially the same subject matter as claim 1. Therefore, claims 4 & 11 are rejected on the same grounds as claim 1.

Regarding claims 10 & 19; Claim 10 & 19 contains substantially the same subject matter as claim 3. Therefore, claims 10 & 19 are rejected on the same grounds as claim 3.

Regarding claim 12; Claim 12 contains substantially the same subject matter as claim 5. Therefore, claim 12 is rejected on the same grounds as claim 5.

Regarding claim 13; Claim 13 contains substantially the same subject matter as claim 6. Therefore, claim 13 is rejected on the same grounds as claim 6.

Regarding claim 14; Claim 14 contains substantially the same subject matter as claim 7. Therefore, claim 14 is rejected on the same grounds as claim 7.

Regarding claim 15; Claim 15 contains substantially the same subject matter as claim 8. Therefore, claim 15 is rejected on the same grounds as claim 8.

Regarding claim 17; Claim 17 contains substantially the same subject matter as claim 2. Therefore, claim 17 is rejected on the same grounds as claim 2.

Regarding claim 18; Nakamura '777 discloses where said controller compares said next-job data minimum processing time and said processing wait period after the next-job attribute is identified (Fig. 9d & 9e i.e. As revealed by the comparison of waiting times A-W and B-W for job A and job B illustrated in Fig. 9d and Fig. 9e, respectively, the overall print waiting time in (sum of waiting time for job A and waiting time for job B) in FIG. 9e is shorter than the overall print waiting time (sum of waiting time for job A and waiting time for job B) in Fig. 9d, by the time period indicated by the shaded portion of Fig. 9d. Paragraphs 0105-0106);

Regarding claims 20; Claim 20 contains substantially the same subject matter as claim 1. Therefore, claim 20 is rejected on the same grounds as claim 21. Moreover, Nakamura '777 discloses Steps A-D and the controller of Obata '876 discloses Step E when at least one of said compression/decompression unit(s) is not busy.

Regarding claims 21-22; Claims 21 & 22 contains substantially the same subject matter as claim 20. Therefore, claims 21 & 22 are rejected on the same grounds as claim 20. wherein the controller of Nakamura '777 discloses Steps A-D and the controller of Obata '876 discloses Step E when at least one of said compression/decompression unit(s) is not busy.

5.   **Claims 9 & 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida '757 in combination with Nakamura '777 and Obata '876 as applied to claim 1 above, and further in view of Nishikawa '046 et al. (US 6,934,046 hereinafter, Nishikawa '046).

Regarding claim 9; Yoshida '757 as modified does not expressly disclose where said next-job attribute consists of whether the data is monochrome data or color data.

Nishikawa '046 discloses where said next-job attribute consists of whether the data is monochrome data or color data (Fig. 12 Step 1202 i.e. Field 1202 denotes physical page setting information in which the setting of layout or color/monochrome is stored when the layout or the color/monochrome can be designated for each physical page. Column 19, lines 16-33).

Yoshida '757 and Nishikawa '046 are combinable because they are from the same field of endeavor of a data processing apparatus (Nishikawa '046 at "Field of Invention").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the data processing apparatus as taught by Yoshida '757 by adding a next-job attribute consisting of whether the data is monochrome data or color data as taught by Nishikawa '046. The motivation for doing so would have been to provide color variations to the layout of a page and to provide a plurality of page layouts for each physical page. Therefore, it would have been obvious to combine Yoshida '757 with Nishikawa '046 to obtain the invention as specified in claim 4.

Regarding claim 16; Claim 16 contains substantially the same subject matter as claim 9. Therefore, claim 16 is rejected on the same grounds as claim 9.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARCUS T. RILEY whose telephone number is (571)270-1581. The examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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